

***A STUDY OF CLOUD AND DRIZZLE PROPERTIES IN THE
AZORES USING DOPPLER RADAR SPECTRA***

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ABSTRACT

Understanding the onset of coalescence in warm clouds is key in our effort to improve cloud representation in numerical models. Coalescence acts at small scales, and its study requires detailed high-resolution dynamical and microphysical measurements from a comprehensive suite of instruments over a wide range of environmental conditions (e.g., aerosol loading). The first AMF is currently in its second year of a two-year deployment at Graciosa Island in the Azores, offering the opportunity to collect a long data set from a stable land-based platform in a marine stratocumulus regime. In this study, recorded WACR Doppler spectra are used to characterize the properties of Doppler spectra from warm clouds with and without drizzle, and from drizzle only, in an effort to observe the transition (onset) to precipitation in clouds. A retrieval technique that decomposes observed Doppler spectra into their cloud and/or drizzle components is applied in order to quantify drizzle growth.